

thra, or through the incisura ischiadica, into the scrotum, or along the thigh.

Differential diagnosis from peritonitis, neuralgia, intestinal catarrh, must be made in the first stages. Later on affections of the bladder, tumors, intraperitoneal localized exudations, may come in question.

Exploration with the aspirating needle is recommended, and early incision to prevent perforation into the abdomen. Drainage may be assisted by a prone position—*Deutsch. Zeitschr. f. Chir.*, Vol. 23, Hft. 5 and 6, June, 1886.

W. W. VAN ARSDALE (New York).

BONES, JOINTS, ORTHOPÆDIC.

I. Fracture of Thigh, Reabsorption of Callus on the Seventieth Day during an Attack of Erysipelas. Dr. FERRET (Paris). A youth, æt. 17, with a good previous history sustained a fracture of the middle third of the thigh during the first week of February. Put up and extended with Tillaux's apparatus it got well without any shortening. When on April 6 consolidation was perfect and the patient was getting about, an attack of erysipelas came on, starting from a spot chafed by the diachylon plaster. It was very severe, and on the sixth day the limb was found bent almost to an angle of forty degrees at the seat of fracture. The callus had all disappeared and there was complete mobility in every direction. The erysipelas was well on April 18, but there was deep pain in the situation of the fracture and to this was added, on the 22nd, both swelling and fluctuation. One hundred grammes of pus were let out by the aspirator. As a fresh accumulation took place, a large opening was made into an abscess cavity where the two ends of bone were found close together, the upper one completely denuded to the extent of 4 cm. Resection was performed, iodoform applied and the limb placed again in the apparatus. At the end of May the wound was healed, and the consolidation was once more perfect.

This sort of case is very rare. The more frequent ones are those in which the callus slowly softens and disappears on account of a generally bad state of health. Out of three cases which Dr. Ferret has

found reported, where it disappeared during an acute febrile disease, one only was properly examined, that of Schillings (*Med. Zeitung*). Here was also a fractured thigh in which, during the sixth week of typhoid fever, all the callus disappeared so entirely that no trace of it was afterward to be found at the post-mortem examination.

Dr. Ferret believes that when, during the course of typhoid or of an eruptive fever the callus thus disappears, the bone must be attacked by an inflammation of an infectious nature (*osteite infectueuse*) which sometimes accompanies those illnesses, and for which the recently formed callus presents a suitable soil—*Le Progres Medical*. Nov., 1886.

L. S. MARK (London).

II. Isolated Dislocation Outwards of the Capitulum Radii. By Dr. W. WAGNER (Königshütte). The first case was that of a miner who, while pushing a car, was struck in the elbow by a second car behind him. He had been dismissed in six weeks with a slightly movable joint. At the end of a year this had become so stiff that he sought relief. The elbow stood at a right angle with practically no mobility of any kind. There was an immovable bony prominence outside the external condyle, evidently the radial head. Other joints free. The capitulum, encased in fibrous masses, was exsected. A wedge-shaped piece from its inner side, representing about one-sixth of its diameter, was firmly adherent to the joint capsule. This was also removed. By means of massage and baths mobility very slowly returned, flexion to 80° , extension to 150° , pronation quite and supination nearly to the norm.

A second, fresh case occurred in like manner. On admission the arm was held flexed by the other hand. Passive motion possible but painful. In narcosis the radial head was formed outside the external humeral condyle, remaining so on both flexion and extension. Careful palpation of the border adjoining the eminentia capitata discovered a shallow defect more evident on slight possible supination. No fracture or displacement of ulna, condylus internus or other part of humerus. Reposition difficult. He succeeded by first adducting in flexion, then on full extension, making the greatest possible abduction with supination,

strong pressure being meanwhile exerted on the prominent head of the radius. On removing the dressing four weeks later, passive motion was still very painful and limited. Massage, etc. did not improve mobility. The radial head was so thickened and fixed that it was excised five months after the accident. The interposition of a part of the articular cartilage had prevented more than a limited fibrous union of the fracture. Even after this operation mobility was not greatly improved.

He mentions having casually seen a third probable case in a man æt. 28. It dated from a fall from a horse, in his sixth year. Motion in the joint was perfectly normal despite the still existing displacement.—*Arch. f. klin Chirg.*, 1886, Bd. 34 Hft. ii.

III. On Compression-Fractures of the Upper End of Tibia. By Dr. W. WAGNER (Königshütte). The only previous discoverable cases were two reported by Volkmann from the dissecting room. In these the internal condylus was splintered, a genu varum resp. an arthritis deformans resulting. The injury is a parallel to compression fracture of the body of a vertebra. Wagner has observed eight cases, one of which was shown, and still presented evidence of a fracture a year after the accident. The mechanism of the injury he believed to be always that in a fall on the feet, the femoral condyle or condyles force in the "roof of the tibia." Usually only the inner tibial condyle suffers the injury. However, both or only the outer one may be affected, a case of the latter coming to autopsy at the end of a month. The greater frequency of injury to the inner condyle is explained by the line of gravity passing nearer the inner side of the knee. Two of his cases occurred at the same time. While going down in a mine the basket descended the first 70 m. at the usual rate, but the second at great speed, everything rebounding on striking the bottom. One of the men specially stated that he had stiffened all his muscles before striking. There was moderate effusion into the joint on admission, the leg slightly flexed and in genu-varum position. The whole joint was sensitive especially below the joint-line. The parts swollen and the circumference below the joint-line materially increased in com-

parison with the other side. Lateral motion at the knee-joint markedly increased. Such is the average symptomatology. In this case though lateral motion no longer exists, a slight genu varum persists (a deviation of 2 ctm. from the middle line as compared with 5 ctm. just after the accident). There is perceptible thickening around the tibial head, the circumference here being 3 ctm. greater than on the other side. No impairment in the use of the leg, however.

In slighter cases the trouble is less clear, and where the external condyle is alone affected certain symptoms will be correspondingly different. Wagner reports two autopsies, one a fresh case affecting the inner condyle, and one in a four-weeks-old case affecting the external. The cortical layer of the resp. tibial condyle was splintered, the arch indented and wedged into the compressed fissured spongy part, some of the semilunar cartilage being included. The cortical layer of the corresponding femoral condyle was also broken.

Extension with careful massage is recommended. Histories of the eight cases finish the article.—*Arch. f. klin. Chirg.*, 1886, Bd. 34 Hft. ii.

W. BROWNING (Brooklyn).

IV. Bone-Grafting in Cases of Extensive Loss of Substance. By M. PONCET (Lyon). From a child, æt. 11, the author removed the entire right tibia excepting the superior articular surface; the portion extirpated was 30 cm. long and but 15 or 16 ctm. of periosteum was preserved. After several series of grafts a useful tibia permitting locomotion was produced; the repair was complete in the ninth month. The author considers this practice of advantage in extensive losses of bone substance, such as are observed after acute necrosis of long bones in children and adolescents or after compound fractures, when a considerable portion of bone has been sacrificed, since it will obviate to a certain extent the shortening of the diseased member and above all permit the conservation of its functions by assuring the solidity of the skeleton. In infectious epiphyseal osteitis, the resection should not stop with the removal of the necrosed bone, but extend to the neighboring bone, ulna or fibula, taking care to make

the section within the epiphyseal cartilage, in order to prevent the growth of this bone beyond its fellow and the resulting deformity. For the success of bone grafting, certain conditions are indispensable both to the transplanted fragments and the point of implantation. (1) The grafts should be small, not exceeding six to eight millimetres in length and three to four in thickness; they should include the periosteum and be taken preferably from parts of the skeleton where ossification is the more active; whenever possible the bones of the new-born, dead without pathological taint, should be used; limbs amputated in consequence of traumatism may also furnish material for bone grafts; so also with the bones of young animals. The fragments should be detached carefully with a strong scalpel, never with a saw, in a direct parallel to that of the bone; the surface of the section should be smooth, and present no projecting laminæ. (2) The place of implantation plays an important role in bone grafting. Implantation should be performed in the period of repair of the wound, when the inflammatory troubles have completely disappeared, when the granulations are healthy, vascular, rosy and suppurating but little, and when the edges have commenced to epidermize. The transplanted fragments probably never grow; perhaps they are even absorbed after a greater or less time; in any case, they enter for a certain time into the formation the new bone, which they render firm and reinforce after the fashion of stone or brick in a substance capable of hardening. It is probable also that they awaken by their presence osteogenetic properties in the neighboring tissue. Antisepsis of the graft and of the wound is indispensable; so also is immobilization such as can only be obtained by a plaster splint.—*French Congress of Surgery, Revue de Chir.*, Nov., 1886.

V. Resection of the Knee. By M. LUCAS CHAMPONNIÈRE (Paris). The writer deplores the unpopularity of this operation. Up to his first really aseptic operation, he had seen persistent fistulæ, impotent limbs, secondary amputations and an elevated mortality follow the operation; since then, he has performed nine operations, bringing the number up to ten, nine being for tuberculous arthritis and one for

arthritis deformans. He has performed no resections in individuals under seventeen years of age, considering it a bad operation in children. The oldest of his patients was fifty-four years of age : he had arthritis deformans and the resection was followed by complete cure. One of these operations has given a really excellent result ; it was upon a man *æt.* 33, who was unwilling to wear any apparatus, but after five months, he waxed the hospital floor. In two cases the apex of the lung was clearly affected ; they were cured however and the condition of the lungs was greatly improved ; as a general thing even very notable lesions of the apex of the lung need not deter the surgeon from operating. The time required for the cure varied from eight to fifteen days : 8 of the cases were entirely cured at the end of three weeks ; in one the suppuration lasted a month and amputation became necessary, from which the patient made a good recovery. Eight of the patients walk ; one suffered amputation in the thigh, and the tenth was a woman who had done very well, but will not walk owing to hysteria.

When should resection of the knee be performed? Excepting in children, it should be done at all ages in patients who have not extensive fistulæ. The incisions should be very extensive, to discover and remove all fungosities ; he attaches great importance to this ; perhaps their destruction may be secured by suppuration, as Ollier has said, but it is a doubtful and dangerous plan. [In the discussion, M. Ollier stated that he now preferred complete ablation of the fungosities by scraping or cauterization in tuberculous cases. J. E. P.] and the surgeon must endeavor to obtain primary union if he wishes to have a solid member. He makes free drainage through the popliteal hollow and removes the drains on the eighth or tenth day. He always sutures the bones with catgut.

The after-treatment is of capital importance. The first appliance has a preponderating influence on the result. The time necessary to obtain consolidation is extremely variable ; some patients have a solid leg at the end of three months. The operation is successful if there be little suppuration ; he is disposed if free suppuration appears, to amputate promptly.—*French Congress of Surgery, Revue de chirg.* Nov., 1886.

VI. Orthopedic Resections. This subject was the order of the day on the third day of the last French Congress of Surgery. M. LAGRANGE (Bordeaux) reported a case of traumatic arthritis of the left elbow in a man, æt. 35, resulting from a shot-wound. Suppurative troubles persisted in spite of a partial resection; a year later, the patient presented multiple sinuses penetrating the joint, with considerable enlargement of the humeral extremity and the olecranon. The joint was resected according to the method of Ollier, the patient recovering rapidly with a useful arm.

D. MOLLIÈRE (Lyon) strongly advocated osteoclasis according to the method recently devised by Robin, which consists of fixation of the skeleton by compression of the soft parts to the utmost, by which the bone can be fractured at any desired point. In congenital dislocations of the hip, osteotomy and resection of the head of the femur are good operations, but he has succeeded without cutting operations.

He objects to anterior and posterior tarsectomy that they are serious and sometimes fatal operations, and would substitute for them, osteoclasis, an operation which has no mortality. Osteoclasis of the tarsus has given very good results, but it should be remembered that club foot cannot always be corrected by treating the foot alone; deformities may occur in all the bones of the lower extremity; there are many cases, where a resort to supra or intra-malleolar osteoclasis is necessary for the correction of a club foot.

In rachitis, there are often curves such that it seems that the soft parts would prevent straightening and a cuneiform resection would seem to be necessary; in reality, the contraction of the soft parts can be overcome by progressive straightening and continuous traction; as immediate straightening is not necessary, orthopedic resection should be rejected in these cases.

In ankylosis of the elbow, resection is of the greatest advantage, as securing a useful limb, except in certain forms of ankylosing rheumatism, in which the ankylosis is sure to recur. In ankylosis, consecutive to coxalgia, he would substitute a sub-trochanteric osteoclasis. In ankylosis of the knee-joint, he considers resection bad because of the excessive shortening and, and as osteotomy has no advantage over osteoclasis, the latter is preferable.

M. RECLUS (Paris) considered that the progressive straightening in rachitis is not always necessary. He had performed osteoclasia with the apparatus of Collin in one case; after the fracture, muscular contraction prevented any reduction; subcutaneous section of the sural triceps permitted immediate reduction, and the result was all that could be desired.

M. GROSS (Nancy) concluded from anatomical and pathological observations and from clinical results, that; (1) orthopedic resection is indicated in ancient and congenital varus; (2) the preferable operation is resection of the astragalus or posterior tarsotomy, with resection of the great process of os calcis if needed, and assisted by subcutaneous tendinous and aponeurotic section; (3) the immediate and secondary results are favorable and recurrence is not to be feared; (4) certain cases of congenital club foot demand early resection; (5) resection of the astragalus is also indicated in cases of old acquired talipes varus, when the deformity and vicious position of that bone are recognized; such is the case in certain cases of paralytic club foot, the origin of which extends back to near birth, and where these modifications have resulted from the influence of locomotion and from the impediments to the regular development of the skeleton of the foot, afforded by the deformity; (6) the immediate result is entirely satisfactory; what the secondary result maybe depends upon the etiological conditions; (7) in acquired varus, where the skeleton of the foot is not deformed, resection is indicated only in the cases where the deformity is very pronounced; posterior tarsotomy gives little satisfaction and cuneiform tarsotomy should be resorted to.

ED. MARTIN (Geneva) rejects operative treatment of club foot for mechanical except in extremely exceptional cases. He advocates the method of Henry Martin of Lausanne, which is modified from Venel and consists of massage, manipulations and the application of apparatus. The treatment is divided into three periods:

1. period of preparation; 2. period of correction; 3. period of convalescence.

The first period consists of light manipulations, a sort of passive

gymnastics, to which he adds frictions, massage of the weakened muscles and sometimes electricity.

The second period differs from the first only by the greater energy of the manipulations and the substitution of the induced for the continuous current. The apparatus, which has the rare quality of being applicable to all varieties of club foot, is Venel's shoe, modified by Jacard and H. Martin. It is composed of a sole or board of wood, to which is fixed a steel plate provided with a socket for the reception of a lever the length of the leg, curved forward, backward or to one side, according to the deformity to be overcome, and finally a heel piece of flexible leather embracing the lower part of the leg and designed to maintain the heel firmly on the sole. This shoe permits locomotion and renders the most signal service in the treatment of club foot. In the treatment of talipes, he disapproves absolutely of the plaster apparatus, with which the flexibility and mobility of the joint so necessary for walking, cannot be obtained; it, moreover, favors atrophy of the muscles.

The period of convalescence begins when the deformity is sufficiently corrected for the child to be able to rest the sole of the foot and the heel on the ground. Then little boots provided with apparatus to retain the foot in a good position are applied.

H. Martin thinks that the results obtained in very young infants do not compensate for the disorders which active treatment may occasion. If the child is vigorous, manipulations may be commenced at the fourth or fifth month; but it is not proper to begin active treatment earlier than two months at least. The practicability of curing club foot by mechanical means is shown by the fact that several patients treated by Hippolyte Martin, the father of Henry Martin, have been able to enter the military service; but to secure a positive result, the treatment must be pursued patiently and regularly; it cannot be declared complete until ossification is completed. In 180 cases of club foot treated by H. Martin, but one was subjected to operation.

M. OLLIER (Lyon) remarked that for ankylosis of the hip, subtrochanteric osteotomy was excessively benign. The question between subtrochanteric section and resection of the hip ought to be decided.

Although he had devised a procedure for giving mobility to an ankylosed hip, he confesses that the result is not equal to his hopes; he obtained a complete success in his experiments upon animals, but the static conditions in man and in quadrupeds are very different; a femur without a head, with a short straight neck, exposes the patient to ascent of the femur or rather descent of the pelvis, the consequences of which are grave; he has observed it after resection for pathological conditions and accordingly he rejects the typical resection in ankylosis of the hip, and practices the cuneiform osteotomy of Volkmann, which has the great advantage of permitting the choice of location and the avoidance, as much as possible, of the old suppurative foci; this is an important point, for the reawakening of these old suppurations, due to tuberculosis or osteomyelitis, is greatly to be feared. Resection is subject to the inconvenience of affecting ancient foci, which might remain stationary indefinitely and which may be relighted under the influence of operative traumatism. Osteotomy also permitting the correction of the deformity better, he rejects resection and considers subtrochanteric cuneiform osteotomy as the method of election. Osteoclasia would undoubtedly be better, if the exact point of fracture could be fixed, but it is uncertain.

For the knee, he is not opposed to osteoclasia, since he instituted supra-condyloid osteoclasia and has obtained good results from it. He approves it for ankylosis at an obtuse angle and even at a right angle, but positively rejects it for ankylosis at an acute angle. In that case, the knee would be higher than the point of fracture, which is a deplorable result. It is necessary then in this case to renounce osteoclasia (which, besides the orthopedic inconveniences, incurs the danger of awakening old inflammations) and resort to the chisel or knife.

J. BECKEL (Strasburg) had performed 20 resections, properly called, which were unreported, as follows: Nine resections of the elbow; 1 subtrochanteric resection of the femur; 3 resections of the knee; 3 tarsotomies; 4 pseudarthroses, all of which were followed by cure. Of the 9 resections of the elbow, 2 were done for ankylosis consecutive to articular tuberculosis, and 7 for old traumatisms, of which 4 were dislocations and 3 badly consolidated fractures. The fungosities

recurred in the first two cases. From the standpoint of secondary result, these two have given the least good result; in one there was an ankylosis at a right angle, and in the other a swinging but nevertheless very useful member. The 7 traumatic cases have given 4 perfect results and 3 results, less perfect in that the subjects have never been able to flex the arm beyond a right angle.

The 3 knee joint resections were done, 1 for arthritic deformity consecutive to traumatism, and 2 for vicious ankylosis after fungous arthritis. The three cases were cured with a straight limb; in the oldest (52 years) the consolidation was not effected until the 13th month; in the other two it was satisfactory on the 19th and 20th day. Of these three patients the oldest worked for three years; then suffered amputation for fungous arthritis and recovered. The youngest died of tuberculous meningitis three days after having undergone resection of the opposite hip and four months after the resection of the knee. The third remains well after three and a half years.

Only one of the three tarsotomies has given a perfect result; in the other two the result has been mediocre. They rest the sole of the foot on the ground, but there is a marked tendency to adduction. The resection then was not extensive enough, in spite of the extirpation of the astragalus, the scaphoid and the external malleolus. A supplementary resection to include the cuboid and a portion of the os calcis should be made. He dwells upon this fact to show that tarsotomy was indicated, and that forced correction—which, indeed, had been performed—could not be counted upon, and still less apparatus. Besides, in these three cases, the new tibio-tarsal articulation is mobile, and there is no trace of ankylosis.

In the pseudarthroses, the fourth case was a complete failure; it was an old pseudarthrosis consecutive to an osteoclasia in a child of 13; two previous attempts had failed. When this third operation was done, the atrophy of the fragments was considerable, the fibula slender and the tibia not thicker than a penholder. The leg was also atrophied and shortened 16 centimetres. In these conditions cure was hardly to be hoped for and amputation would have been better if the parents had consented. The other three cases were followed by positive success.—*Revue de Chirurgie*, Nov., 1886.

VII. Fracture of Humerus with Interposition of Soft Parts and Operative Replacement. By FREDERICK LANGE, M. D. (New York). A boy, æt. 10, fell about 8 feet, striking on his right shoulder and sustaining a fracture of the femur, immediately below the head; the lower fragment had apparently perforated the deltoid muscle and, with a sharp edge, was fixed in the deep layers of the skin without penetrating it. A distinct protrusion was formed on the anterior aspect of the shoulder, the elbow being thrown backward so that the axis of the bone was directed abnormally in front. The lower fragment could not be released from its abnormal attachment, even when, after the swelling and tension had markedly subsided, on the seventh day, the patient was put under ether. An incision was then made over the displaced fragment and the slit in the deltoid enlarged. A separation was found in the epiphyseal line as far as the middle of the bone whence a line of fracture went in an oblique direction downward and backward, its lowest point being about two inches below the epiphyseal line. In order to bring the fragments into proper apposition, it was necessary to elevate the arm above the horizontal line and to give it a decided outward rotation, at the same time bringing it slightly forward. The periosteum and fibrous attachments on the edge of the upper fragment were not torn exactly in the line of the fracture, but at a short distance below, so that they overlapped the edge of the upper fragment and had to be turned up, a condition similar to that found in fractures of the patella. The periosteum had to be slightly indented and then coaptation could be effected. The long head of the biceps was not torn, but lifted out of the groove and dislocated to the inner side; with the lower fragment, it returned to its normal relations. Union without necrosis, and complete cicatrization ensued. The upper fragment, by the action of the muscles inserted into the greater tuberosity, was abducted and rotated outward; consequently, during the after-treatment, the corresponding position of the arm was maintained with slight extension and a splint passing from the posterior aspect of the arm over the back to the opposite scapula. This way of treating fractures of the uppermost extremity of the humerus had recently been recommended by Bardenhauer. The author had lately treated a case

of fracture of the surgical neck of the humerus in the same way with success. It confined the patient to his bed for a long time, but it certainly secured the physiological relation of the fragments.—*N. Y. Surgical Society*, Nov. 22, 1886.

GYNÆCOLOGICAL.

I. The Advantages of Dilatation in the Curative Treatment of Cancer of the Uterus. By M. VULLIET (Geneva). The method permits the operator to see up to the fundus, and the lesions can be ascertained by sight. This has been of importance in cases where cancer was found to have extended higher up in the cavity of the body than would have been supposed otherwise. When the lesion is superficial, the surface is scraped with the curette and then with the nail, by which the resistance of the tissue can be appreciated, the scraping being continued until muscular fibres are brought away. Then it is cauterized with red heat or chloride of zinc. At the end of fifteen days the eschars separate. Then the cervix is again dilated to see if the whole growth has been removed. When the lesions are too far advanced for curative treatment, a more moderate dilatation will transform the uterus from a deep sinus into an open wound, easy to disinfect. The author has treated 17 cases by this method; laying aside those judged to be curable at the outset, cicatrization was obtained in 5 cases out of 7 where curative treatment was undertaken.—*French Congress of Surgery, Revue de Chirurgie*, Nov., 1886.

II. Vaginal Hysterectomy. By G. RICHELLOT (Paris). Thirty operations have been done by the author's method, ten of which he performed himself. The operation consists of three steps: The isolation of the uterus, the treatment of the broad ligaments, and finally the treatment of the wound. Hitherto the dangers of vaginal hysterectomy have been due mainly to the difficulty of placing firm ligatures on the broad ligaments. He has proposed a means of meeting the double purpose of: (1). Assuring hæmostasis. (2). Shortening the duration of the operation. This is the use for compression of the broad ligaments of long forci-pressure forceps, which may be left in